NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
D. C. Cook Nuclear Plant - Unit 1	0 5 0 0 0 3 1 5	1 OF 0 3

TITLE (4)
Inoperable Auxiliary Feed Pump

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
1 0	2 7	8 5	8 5	— 0 5 8	— 0 2	0 5	0 9	8 6		0 5 0 0 0

OPERATING MODE (9)	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)	50.36(c)(1)	X 50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)	50.36(c)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
L. S. GIBSON - TECHNICAL ENGINEERING SUPERINTENDENT	AREA CODE 6 1 6 4 6 5 - 5 9 0 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

This is a follow-up LER to report corrective/preventative action.

On October 27, 1985, at 2027 hours, with the unit in hot standby, the west motor driven auxiliary feed pump tripped on low suction pressure coincident with the turbine driven auxiliary feed pump inoperable for testing. The action statement of Technical Specification 3.7.1.2, which requires at least three auxiliary feed pumps operable, had been voluntarily entered on October 25, 1985, at 1056 hours, for operability testing of the turbine driven pump. However, the coincident loss of the motor driven pump caused entry into the Technical Specification 3.0.3 requirement that action be initiated within one hour to place the unit at least hot shutdown (Mode 4) within the following six hours.

Operator action restored the inoperable motor drive pump to operable status in 18 minutes. The unit was then under the actions statement requirements of Technical Specification 3.7.1.2. The turbine driven pump was subsequently declared operable at 0923 hours on October 28, within the 72 hour limit.

This event does not constitute an unreviewed safety question as defined in 10 CFR 50.59 because the length of time that the to pumps were inoperable was within the action statement limits.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

On October 27, 1985, at 2027 hours, with the unit in hot standby the west motor driven auxiliary feed pump (IEEE/P) tripped on low suction pressure coincident with the turbine driven auxiliary feed pump (IEEE/P) inoperable for testing. The action statement of Technical Specification 3.7.1.2, which requires at least three auxiliary feed pumps operable, had been voluntarily entered on October 25, 1985, at 1056 hours, for operability testing of the turbine driven pump. However, the coincident loss of the motor driven pump caused entry into the Technical Specification 3.0.3 requirement that action be initiated within one hour to place the unit into at least hot shutdown (Mode 4) within the following six hours.

Investigation revealed that an unusual combination of factors was involved. During the testing of the turbine driven auxiliary feed pump (TDAFP) (IEEE/P) a faulty governor (IEEE/65) caused the turbine speed to oscillate at approximately 2.2 cycles per second. This resulted in pressure oscillations of the suction side of the motor driven auxiliary feed pump (MDAFP) (IEEE/P) which was in service. Foreign material in the suction gauge protectors on the MDAFP acted as a check valve to permit the pressure sensors to sense only the low pressures of the oscillations by preventing the higher pulses from reaching the sensors. This caused the sensors to ratchet progressively lower, resulting in a 2 out of 3 low suction pressure coincidence and tripped the MDAFP.

Operator action was to dislodge the foreign material in the gauge protectors and restore the pressure sensors resulting in an operable MDAFP.

Following an engineering justification, the automatic low suction pressure trips were disabled on the auxiliary feed system and replaced with the equivalent safety function using the operator/alarm. The suction pressure gauge protectors and associated instrument piping were then cleaned and returned to service.

The TDAFP governor, governor valve linkage, governor valve cam, and governor valve stem were all replaced.

The TDAFP was successfully tested and returned to service at 0923 hours on October 28, 1985, within the 72 hour Technical Specification limit.

This event does not constitute an unreviewed safety question as defined in 10 CFR 50.59 because the length of time that the two pumps were inoperable was within the action statement limits.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

CORRECTIVE/PREVENTATIVE ACTION

A teleconference was held between American Electric Power Service Corporation (AEPSC) and NRR on May 5, 1986, regarding removal of the auxiliary feedwater pump low suction pressure trip and replacing it with an alarm/operator action combination. AEPSC referenced the original letter (dated December 11, 1979), in which AEPSC agreed to install the low suction pressure trips. AEPSC told the NRR that this original letter also contained a statement to the effect that the condensate storage tanks had been analyzed to show that they are capable of withstanding both the operating and design-basis earthquakes. AEPSC also pointed out that at full-flow conditions in the auxiliary feedwater system, there is a 14-minute time interval between the moment when the water level in the tank is at the low suction pressure alarm position and the moment when the water level drops to the center line of the suction pipe for the AFS pumps.

NRR stated that their major concerns were that the tanks could withstand a design-basis earthquake, and that sufficient time was allowed for operators action. They believed that the automatic trip could be changed to an alarm function. It was indicated that the change in agreement should be documented, and should also include some discussion of missiles. Currently a letter to this effect is scheduled to be mailed to the NRC by May 31, 1986.

The feedback received from NRR on this subject indicates there is a very good chance that the request for permanent relief from the trip will be granted. Based on this, we shall pursue the removal of the low suction pressure trips as preventative/corrective action.

American Electric Power System
INDIANA & MICHIGAN ELECTRIC COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
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May 9, 1986

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Operating License DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by 10CFR50.73 entitled Licensee Event Reporting System, the following report/s are being submitted:

85-058-02

Sincerely,

for W.G. Smith, Jr.
Plant Manager

/cbm

Attachment

cc: John E. Dolan
J.G. Keppler, RO:III
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